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Mount Carbon coal Co

THE

MOUNT CARBON

COAL PROPERTY.

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THE MOUNT CARBON PROPERTY.

The Mount Carbon coal mines were chartered by the Legislature of Illinois, 24th of January, 1835, for thirty years, under the title of the "MOUNT CARBON COAL COMPANY," to be free from taxes until the dividends of the company shall exceed 12½ per cent. on their capital of $200,000. A copy of the charter is herewith submitted. Any amendments that may be desired in the charter privileges, I am assured, can readily be obtained from the Legislature.

The above mines are on the margin of Big Muddy river, near Brownsville, Jackson county, Illinois, about 25 or 30 miles by water, 12 or 14 miles by land, from the Mississippi, and 60 or 70 miles above the mouth of the Ohio. The *Central railroad*, recently chartered, (and the company organized and preparing for the work,) to commence at the mouth of the Ohio, will pass *through*, or very *near* to the above *mines;* thereby affording *a choice* of conveyance for the *coal* and other productions, which must add very much to the population, trade, and *value of property*, in that section of country. Big Muddy river is navigable about 6 months in the year. The water of the Mississippi, during the spring and summer rise, is backed up to the coal mines to the depth of *six* to *twelve*, and sometimes *fifteen* feet.

The *upper* stratum or seam of coal is from six to seven feet thick, the bottom of the stratum being about two feet *above* high-water mark. It mines easily, in large blocks, and does not crumble, or form much slack, or dust, even when exposed to the weather. Each hand can raise and bring out on the wharf about one hundred bushels per day. The customary wages of laborers is from $10 to $15 per month; the whole

cost, therefore, of loading it into boats or barges, at the mines, would not exceed *one or two cents* per bushel.

The *quantity* of coal is believed to be *inexhaustible for centuries to come.* Its *quality* is very *superior,* and differs *materially* from any other vein of coal discovered in the United States, and perhaps in England. It unites the qualities of the *anthracite* with *pure charcoal;* ignites very *readily;* burns with a *strong heat and much flame,* producing little *smoke, cinder,* or *ashes.* It makes *an open fire,* and does not melt or run on the grate bars, or produce *soot,* like bituminous coal generally. It is remarkably free from *sulphur, slate,* and other *impurities,* and is, therefore, particularly adapted to the use of *steamboats, mills, cotton presses, sugar refiners, sugar estates,* and all steam operations, and for all kinds of work in *iron, steel,* brass, and copper, (as will appear by reference to *a specimen* of the article, and the certificates of many practical men of respectability, which are herewith submitted.)

It is believed by captains experienced in the steamboat trade, (with whom I have conversed,) that if a supply of this coal could be obtained, at convenient distances on the Mississippi river, that the trip from New Orleans to St. Louis could be made in probably *two days less time* than is now required with the ordinary wood. *Any gain of time,* however small, would, *at once,* secure its general use. There would also be an important *gain* in the quantity of *freight* that could be carried, arising from the difference between the weight of a cord of wood, and *ten* or *twelve* bushels of coal, which would be fully equal in effect.

The outward-bound shipping from the port of New Orleans would consume a large quantity of coal; and vessels in the Havana and South American trade would, no doubt, use it as ballast, or take full cargoes of it.

The removal of the rafts in the Atchafalaya, (a continuation of Red river,) which is now in progress, will add very *largely* to the consumption of coal, for the supply of *sugar plantations* on the rich *prairie lands* contiguous to that river and the Teche.

By reference to the letter and estimate of Captain Henry

M. Shreve, (who commands the snag-boats in removing the rafts from Red river,) it will be seen that coal from the Mount Carbon mines can be delivered at New Orleans for *ten cents or less* per bushel; and that the *immediate* demand for it will be *almost unlimited*, and must continue to increase rapidly in *price* until an adequate supply is thrown into market. For several years past, coal has sold in New Orleans, during the *winter season*, at 37½ to 62½ cents per bushel. My calculations are all made at the *minimum* price of 25 cents per bushel; but with a coal yard, and a supply on hand, the above high rates would be *frequently* obtained, and the minimum price of 25 cents per bushel would be *freely* obtained at *all* points on the Mississippi, from the mouth of Big Muddy river down to New Orleans.

The supply at New Orleans at present is derived chiefly from *Pittsburg* and *Wheeling*. The Mount Carbon mines are only about *half the distance* from New Orleans, and the the *quality* of the *coal is decidedly better* for generating steam, and for most other purposes.

Connected with the coal mines there are about 1,222.68 acres of land, of *rich* quality and very *heavily timbered*, a steam saw and grist mill, with two run of stones and one saw, recently erected. The mill is 28 by 60 feet, three stories high, substantially framed and built. There is, also, one large double cabin, well finished, for the manager, and several smaller ones, of the ordinary kind, for workmen, with blacksmith shop, stable, coal wharf, &c. There are also very favorable appearances of salt water on the land, near the Saline, a good supply of which, I have little doubt, might be obtained by boring for it. The salt made at the State Saline readily commands fifty to seventy-five cents per bushel of fifty pounds, for the supply of the adjacent country.

There is a public road near the mill and coal mines, *with an eligible site for a town*, which must *necessarily* grow up there. As the waters of Big Muddy river and its branches, *above* the steam mill, mines, and town site, afford navigation for batteaux, and sometimes for large flat boats, which would embrace and draw to "Mount Carbon" the trade of *several*

counties well adapted to the production of tobacco, wheat, corn, rye, cattle, hogs, deer skins, furs, beeswax, &c., &c., in exchange for which a considerable amount of goods could be sold at very large profits, this trade might be expected to increase regularly, with the increasing population which would be drawn to the town by the operation of the mines and steam mill, and the additional facilities for trade that will be given to it by the railroad from the mouth of the Ohio, connecting with the Illinois river at the head of steamboat navigation, and the canal from thence to Lake Michigan, at Chicago. The lots in the contemplated town of "Mount Carbon" would probably, in a short time, more than repay the whole purchase of the mines, mill, and property, above described.

As I am unable to make arrangements to remove to Illinois, I am compelled to sell this valuable property, which I now offer for one hundred thousand dollars, with all the advantages and privileges of the charter obtained from the State of Illinois for carrying on mining operations and transporting coal to market, &c., and will receive in payment one-fifth of the amount in stock of the company, and the residue in cash. The title to the property is unquestionable. For further particulars reference may be made to N. Berthand, Esq., No. 106, Broad street, or to the subscriber, (now at Bunker's.)

HALL NEILSON.

New York, *April* 11, 1836.

P. S. If the consumption of coal should increase as rapidly as may be expected, and the company should consider a railroad desirable direct to the Mississippi, in *aid* of the navigation of Big Muddy river and the *railroad to the mouth of the Ohio*, I think there can be no doubt that one could be made at *moderate cost*, the distance not exceeding fourteen miles. *Timber very abundant all the way*, (and for thirty miles above the mines, on Big Muddy and its branches,) the timber and the land necessary for the road would probably be given without charge; besides, a liberal charter could readily be obtained from the Legislature of the State, either as a branch of the *Central railroad*, or otherwise. This road might be expected

to have a good deal of business, independent of the mines, in transporting the produce of the interior country from "Mount Carbon" to the Mississippi, and the requisite supply of goods for that place in return. A large supply of timber might also be transported, for which there is a ready market on the Mississippi. A town would of course grow up at the junction of such a road with the Mississippi, which might prove a desirable location for building steamboats, barges, and other vessels, timber being very *good* and *abundant*, and it is now becoming *scarce* and *high* at many of the places on the Ohio, &c., where such work is now done most extensively.

H. N.

P. S. additional. I will add eighty acres of land on Big Muddy river, about a half mile below Brownsville, and one and a half mile below the *State Saline*, to the 715 acres offered to the company *as above*, making in all 795 acres. On this tract there are very good indications of salt water, which induced the erection of a *furnace* and some other improvements, and a boring was made to the depth of 340 *feet;* in this boring veins of salt water were *frequently* struck, from within 20 or 30 feet of the surface, downwards, and generally *increasing* in strength as the boring was extended. At 327 feet, a vein was struck *much stronger* than the previous ones, but not large enough to sustain the work. I have no doubt, if the boring was *continued to* 500 *feet, that an abundant supply of salt water would be procured;* (this is the opinion of many persons in that country experienced in such matters.) The salt water in that region is remarkably *clear* and *pure*, requiring no other process than boiling to produce *beautiful* white salt.

At Charleston, on the Kenawha, they generally bore from *five to six hundred feet* for salt water. The work is *not* expensive.

This tract, being *unconnected* with the main body of the land, was omitted in my general proposition, as above. I think there is a fair probability of its being *immensely valuable*, and this addition gives to the company a good chance for salt water, *above* and *below*, in *range with the State Saline.*

The work done on this tract has cost me a large sum; part of the work would be available in future operations.

HALL NEILSON.

NEW YORK, *April* 11, 1836.

An estimate of the probable cost of 100 *flat boats of middle size, (say* 70 *by* 18 *feet,) to carry* 3,000 *bushels of coal each, loaded with coal from the Mount Carbon, for New Orleans, and sold there at* 25 *cents per bushel, sending two boats together under one pilot, as usual, and leaving the value of the boats at New Orleans, against contingent expenses, viz:*

2 boats, 70 by 18 feet, at $1 25 per foot length, is - -	$175 00
(With arrangements, boats can be built for $1 per foot, or less.)	
6,000 bushels of coal, at 2 cents per bushel on board - -	120 00
1 pilot for the trip $50, 5 bow hands at $25 each, for the trip -	175 00
Provisions for the trip $40, insurance $20 - - -	60 00
Cables, &c. (these are always brought back by the men) -	10 00
Commission on sales at New Orleans $1,500, at 5 per cent. -	75 00
	$615 00

CR.

By sales of 6,000 bushels of coal at New Orleans, at 25 cents per bushel - - - - - - -	$1,500 00
Nett profit on two boats - - - - - -	885 00
Therefore, the profit on 100 boats would be - - -	$44,250 00

The profit would be much greater on a *larger* class of boats, (say 80 by 20 feet,) which would carry about 4,000 bushels of coal each, and would require no more men to navigate them.

The above price of 25 cents per bushel would be obtained readily at *all* places on the Mississippi, from the mouth of Big Muddy river down to Memphis, Vicksburg, Natchez, &c. And at New Orleans, in the *winter*, the price of coal is often 50 to 62½ cents per bushel. Wood, in that market, ranges from 4½ to $8 per cord, and averages from $5 50 to $6 throughout the year. *Ten* or *twelve* bushels of Mount Carbon coal is fully equal to a cord of their best wood.

One head boat-builder and ten ordinary hands can build two boats per week, ready for loading; and *ten* men in the mines would furnish their cargoes. This, I think, would be a good scale of work to commence on. $10,000 would, I think, be a sufficient cash capital to commence the business with at the *mines* and *mill*, and $2,500 at New Orleans.

H. NEILSON.

The gentlemen to whom Mr. NEILSON made overtures for the sale of a moiety of the above property, despatched Mr. A. B. WALLER, of Washington, a gentleman in whom they could place entire confidence, to examine the property, and report to them the result of his observations, in regard to its nature, situation, extent, and probable value. The following is Mr. WALLER's report:

WASHINGTON CITY,
January 21, 1839.

DEAR SIR: According to your request, I proceeded to the State of Illinois, to examine the property of the Mount Carbon Coal Company, and hereby make the following report:

The property of the company is situated in Jackson county, in the southwestern part of Illinois, about four miles from Brownsville, the seat of justice of the county, on the margin of the Big Muddy river, and twenty-five miles above its junction with the Mississippi. This stream is navigable for boats drawing from 3½ to 4 feet water, during about seven months in the year. The coal mine is situated in a bluff, some 40 or 50 feet high, immediately on the bank of the river, fronting something over half a mile on the stream, and running back about the same distance; the stratum of coal which has been worked lies about 15 feet above the bed of the river; three openings have been made in the side of the hill, within a few feet of each other; the central one, which has been most worked, has the mouth closed by the sliding of the hill above. I entered the other openings, neither of which extend into the hill more than fifty feet, and examined the coal; the quality I think superior to any bituminous coal I have ever seen, except, perhaps, the Cumberland. The stratum runs into the hill in a horizontal direction, and, I have no doubt, runs entirely through it; an excavation has been made in the back of the hill, a short distance lower down the stream, on the same property, and coal of the same quality has been found. I am of the opinion that another stratum, of at least equal thickness, will be found below the one heretofore worked, as, about a quarter of a mile higher up the river, an opening has been made nearly on a level with the bed of the stream, and about fifteen feet below the level of the stratum already named, and several boat loads have been taken therefrom of the same kind of coal; the stratum is represented as being about six feet thick. The stratum that I examined is from 6 to 7 feet in thickness, in both the openings, with a stratum of slate above and below.

The facilities of mining this coal and getting it to market are such as to render it very valuable; nature has provided a channel for conveying it to market; and you will at once see that the labor of mining and loading into boats is very small, when I inform you that it will be only necessary to build some *log* wharves, opposite to the mouth of each opening, for your

boats to load at; and the distance from the mouth of the mine to the boat will not exceed thirty feet; and that as many openings can be made as may be necessary. It is estimated that each hand will mine and load into the boat 100 bushels per day, with a wheel-barrow; of course, each hand would greatly exceed that quantity with the proper fixtures for carrying out the coal from the mine. This property is situated in the midst of the best timbered region of Illinois, or perhaps of the West; the tract of land owned by the company contains, as you are aware, upwards of 1,200 acres; of this, about 1,100 acres are well timbered with white oak and yellow poplar of the very best quality. I estimate that every acre of timber will yield at least 10,000 feet of sawed lumber, which will sell readily at the mill for $15 per 1,000 feet; and the expense of cutting, hauling, and sawing it cannot exceed $5 per 1,000; thereby yielding for the timber alone $100 per acre. The country, for 40 or 50 miles up the prairies, will be dependent on this place for a supply of lumber; in addition to this, the great Central railroad through the State will pass within about 5 miles of the Mount Carbon property, and will depend, in a great measure, upon the country immediately around for the timber necessary in its construction. The famous Missouri Iron Mountain is situated about 60 miles west of this property; and it would seem that the most natural course to be taken to get it to market will be to construct a railroad from the mine to the Mississippi, which would strike the river immediately opposite to the mouth of the Big Muddy, and convenient to the Mount Carbon coal. No coal has been discovered on the Missouri side lower down than St. Louis, and the coal in that neighborhood is of a very inferior quality. I do not feel competent to give an opinion with regard to the prospect of obtaining a supply of salt water of sufficient consequence to justify the erection of salt works; but it is the general opinion of the inhabitants that an abundant supply of water can be obtained by boring five or six hundred feet. The manufacture of salt is now carried on in a small way at the State Saline, about one mile from Brownsville, and pays a fair profit on the expenditures.

There is a steam mill attached to this property, situated on the opposite side of the river to the coal mine, and distant from it three or four hundred yards; this was built for grinding and sawing; and had it been properly constructed, and well managed, would doubtless have been a profitable concern; the building is an excellent one, but the machinery is of very little value, and if any business should be attempted with it, will have to be entirely renewed. There is a very good site for a town at the mill, and a village would soon grow up there, if the coal and lumber business should be carried on extensively; and I have no doubt but that, in a few years, the town lots would sell for enough to pay for the property; even now, a large number of the inhabitants of the county are desirous of removing the seat of Government of the county to this place. The whole of the land is of an excellent quality, although some of it is a little broken and hilly. I annex a calculation with regard to the coal, made by two gentlemen of Brownsville, previous to my arrival there, and merely for their own satisfaction. I also annex an estimate of my own, differing from theirs simply in the size of the boats. I would merely say, in conclusion, that there is now a considerable population in the neighborhood, and that the country is filling up and improving.

Yours, respectfully,

A. B. WALLER.

William A. Bradley, Esq.

I estimate 2 boats, 20 feet wide and 80 feet long, to carry 4,000 bushels each, to cost	$200 00
Cables	10 00
8,000 bushels coal, at 2 cents, on board	160 00
6 hands and pilot, for a trip	200 00
Provisions for 2 boats	50 00
Insurance, say	40 00
	$660 00

Contra.

By sales of 8,000 bushels coal in New Orleans, at 25 cents	$2,000 00
	$1,340 00
Say 100 boat loads, at a profit of $670 each	$67,000 00

And this might, I think, be doubled after the first year, as there would, no doubt, soon be a demand altogether beyond the supply.

Copy of calculation made by Major Graham and William Limrick, of Brownsville, for two months' operations at the coal bank in Jackson county, Illinois.

2 boats built each week, (suppose each to cost $75,) and $5 for cable, in all 16 boats, at $80	$1,280 00
Coal for 16 boats, 2,400 bushels each, cost on board the boats 2 cents per bushel	768 00
6 hands and 1 pilot for two boats, $200 each; 16 boat loads, at New Orleans; cost of pilots and hands	1,600 00
Provisions for 16 boats, at $25 each	400 00
Suppose 16 boats insured $400 each, at 2½ per cent., $10	160 00
	$4,208 00
Suppose 800 barrels coal, sold in New Orleans at 62½ cents per barrel, would be $500 each, 16 boats would be	8,000 00
	$3,792 00
Suppose, again, 800 barrels sold in New Orleans, at 75 cents per barrel, would be $600 each; 16 boats would be	9,000 00
Profit for two months	$4,792 00
Again, suppose (which might be realized by having a yard in New Orleans, so as to obtain the highest price) 800 barrels at $1 per barrel; 16 boat loads would be	$12,800 00
Profit for two months' operations	$8,592 00

REPORT ON THE MOUNT CARBON COAL MINES.

JACKSON COUNTY, ILLINOIS,
September 8, 1840.

DEAR SIR: In pursuance of your request, I hand you annexed a report on the Mount Carbon Coal Mines, and I much regret that a severe attack of fever and ague, (from the effects of which I am now suffering,) at the period in the spring most favorable for mineral examination and survey, prevented me from pursuing and completing this examination in the minute way I intended. The ground in the woods is so thickly covered with underbrush that, without a number of axemen to cut out the brush, no survey of boundary can be made; and, to have this done at the present season, will delay more time than you can allow for making this report. I will, therefore, confine myself to such matter as I am in possession of; but, at the same time, I must remark, that the value of the property and the extent of its minerals is very far from being fully ascertained, as but a small part of it has been operated on, and no examinations made below the level of the river on any part of it.

A charter, to form a company to work these mines for thirty years, and raise a capital of $200,000, was granted by the Legislature of the State, under the title of the Mount Carbon Coal Company, 24th January, 1835, of which you have copies, and to which I refer for further particulars as to its provisions, &c. Such further powers as may be necessary can be readily obtained from the Legislature.

I propose to divide this report into the following heads:

1st. The extent of the land; quality of the coal, and extent of it, as far as ascertained; and the uses to which it may be employed; cost of mining and delivering into boats.

2d. The mines that now supply the markets most convenient for selling this coal, and the relative expenses of delivering it in such markets.

3d. The different routes by which the coal can be delivered, and the comparative advantages of each.

First. The quantity of land now owned by the company is about thirteen hundred acres, and it was supposed this included the whole of the lands containing coal that were desirable from their situation. I have ascertained that the coal extends further than was supposed, and am making arrangements to add about 200 acres more to the property, which will both square the boundary and add from 100 to 130 acres more coal land that adjoins to us on two sides, and is convenient to our wharves, railroads, &c.

The coal mines which are worked by level are situated on the banks of the Big Muddy river; the coal opening is situated about twenty feet above low-water mark, and, at times, the river rises to within a few feet of the level of the floor of the drift. From the mouth of the mine, when the river is in this state, to the wharf at which the boats lie, does not exceed 150 feet. The coal of the Mount Carbon Coal Company's mines is contained in a series of rising grounds above the level of the river, on the south side, (the other side of the river is flat, low land,) intersected by small ravines, from ten to fifty yards wide, which afford convenient places for railroads and ventilation to the mines; and, as far as these rising grounds have sufficient elevation, they contain the coal. The roof and floor of the

mines are perfectly regular, and no appearance of fault or dislocation has yet been met with, and I believe none exists, nor any fire damp, &c. A large quantity has been mined this year, and some boat loads sent to New Orleans for steamboats. Certificates of its quality, from the owners of the boats who used it, are daily expected. The remainder is now lying on the wharf, owing to the usual rise of the Mississippi not having yet taken place to back the water up to the wharf at the mines. The coal is from five and a half to six feet in thickness, and will yield about 6,000 or 7,000 tons per acre. The coal of these mines is remarkably free from sulphur, slate, and other impurities, in proof of which the fire bars of the steam-engine at the mines have been in constant use for more than a year, and are little the worse for wear. It is preferred by the blacksmiths who have used it to any other they have ever tried, and the early French settlers used to come 40 or 50 miles for it to use in their forges, on account of its great purity, when they had plenty of other coal within ten miles of them; and it still maintains its superiority over all other mines in the State yet discovered. Being situated in a part of the State the advantages of which were overlooked, these mines did not attract much notice until the internal improvement system of the State promised to furnish the means of taking it to market. The coals of Illinois, with the single exception of the Big Muddy mines, are, as far as I am acquainted with them, very impure, containing much sulphur, slate, and earthy matter, and, with the exception of the Big Muddy coal, wholly unfit for making iron. The same remark will apply to the Missouri coal. The drift which has been carried into the mines is driven nearly at right angles from the river, and is carried into them about 130 or 140 yards. Its further progress was delayed till the railroad and mine-wagons were ready, as the distance got too long for wheeling, and the men were put to work in another place, to get out coal for sale. The coal mines in large blocks, and bears exposure to the weather very well; it also makes a capital coke, and the small particles can be coked in ovens, if required; but, if properly mined, no more small is produced than can be advantageously used with the large coal in steamboats and steam-

engines. This coal makes a very hot fire, and very little smoke, and but little cinder or ashes, and a remarkably pleasant fire in a grate, and kindles readily. The steamboats on the Mississippi river are now using it, and certificates of its economy will be got from the boats as soon as I can spare time to go after them. Our present price to steamboats, at the mouth of Muddy, is sixteen cents a bushel, which leaves us nearly one-half for profit. The captain of the steamboat at New Orleans, who took 1,200 barrels of this coal for fuel on his voyage to Texas, promised to send us his opinion of it, and how the coal answered, but we have not yet received it—there has been hardly time. This coal is admirably adapted for use in iron-works and glass-houses—much more so than that from Wheeling or Pittsburg—and in puddling and heating furnaces, on account of the total absence of sulphur and other impurities, which combine with the iron and occasion great waste in the furnace; it is equally calculated for the operations of the blast furnace for the same reason. Some specimens of cokes have been made of admirable quality, and it is intended to make a quantity of cokes for iron founders, as soon as it can conveniently be done. Only one strata of coal was formerly known, though others were supposed to exist; but another vein of remarkably good Smith's coal, rather more than a yard thick, was found last March, and about ten tons of it got out. As this lay farther from the river than the other coal, and the road to it was not made, operations in it were discontinued, but enough was done to show that it was accompanied by a vein of limestone about a foot thick, and also some ironstone, but the explorations were not carried on far enough to say if the ironstone was workable or not. This last coal, as it lies many feet above the other coal, does not extend over as large a surface, but it may probably cover from 100 to 200 acres. Enough of the other coal is known to exist, from admeasurement and examination, to supply a consumption of 1,000 tons a week for fifty years to come, and, as about a fourth part only of the company's lands have yet been examined, there may be three times as much. The rocks which show themselves in the ravines are indications of coal under them.

It is proper to observe that the mines are now opened, and a capital wharf built on the bank of the river for loading the coal; and that a thousand tons of coal a week could be supplied, as soon as a sufficient number of hands could be put into the mines. No expensive outlay is required to put these mines into extensive operation, but every dollar now furnished to carry on the concern will bring an immediate return. In this respect, they will advantageously compare with all the coal concerns in the United States. The expenditure—to partially improve the channels now used for sending away the coal, and building a steamboat to run on Muddy—sufficient for any probable present demand, would not exceed $10,000.

I am not able to say what the whole extent of coal on the company's lands will turn out, as I was unable to finish the examination on account of sickness, but I will state some of the data on which I form my opinion, and a reference to the map marked "No. 1," will further elucidate the matter. In the spring of last year I devoted some time to an examination of this property, and actual admeasurement gave upwards of 200 acres of coal land conveniently situated to the river. The time did not then allow of ascertaining the entire extent, but I have no doubt the opinion I then formed is within the mark, that the extent of the unmeasured coal was fully equal to that measured. The thickness of the coal is about 5½ feet, and it lies very nearly horizontal, and drains towards the river. The strata is accompanied with some ironstone balls of excellent quality. I have now been residing on this property nearly one year, and I find the favorable opinion I formed on my first examination fully confirmed, and quite within the mark. The observations made as to the extent of coal lands are confined to the four parcels on the right hand side of the map. Contractors have offered to get this coal and deliver it into boats along side the wharf, when the railroad is laid and the mine-wagons prepared, at two cents a bushel. This may be considered the maximum price. When the coal is obliged to be put down on the wharf, and again picked up to be loaded into boats, there will be that additional expense to add to it. This may be about half a cent a bushel; but only that part of the

coal deposited on the wharves will be subject to this expense. It may be as well to remark that three cents a bushel is now paid at the mines near St. Louis, and also at Hawesville, on the Ohio river, about 120 miles below Louisville, and that those locations are very sickly.

Second. The towns on the Ohio and Mississippi rivers are at present imperfectly supplied with coal from Pittsburg and Wheeling, but the prices are very irregular, and supply uncertain, owing to the dangerous and uncertain navigation of the river. The steamboats pay for Pittsburg coal, at Cincinnati and Louisville, usually about 16 cents a bushel; and at times, when the river has long been in a low state, as much as 37½ cents has been charged at Louisville. The navigation of the Ohio is very uncertain, and no insurance can be effected on coal boats to New Orleans. I am told the Pittsburg traders consider they do well if they get six boats out of nine safe to New Orleans; and, in the winter time, this description of coals frequently brings $2 50 a barrel at that city, and as much at Vicksburg and Natchez. The mines of the Mount Carbon Coal Company are nearly one thousand miles nearer those markets, and therefore are not liable to the detentions and dangers of the navigation of the Ohio, in which the losses principally take place; and, as they are more to the South by many hundred miles, the boats from Mount Carbon can get to the towns on the lower Mississippi more than a month earlier than those from Pittsburg and Wheeling. This is a very important advantage, as the first coal that gets to market always commands a much higher price than at subsequent periods; and to be nearly a thousand miles nearer to market, and at a location free from ice from one to two months earlier, is an advantage that must be apparent to every one. There are some deposites of coal about ten to fifteen miles further up Muddy river, but they lie back; and from the very superficial covering on the coal, and consequent want of pressure on it, the coal is of inferior quality; and, independent of that, they cannot compete on account of the greater expense and difficulty of getting to market. In short, there are no mines yet discovered that can compete in the river market with

these. The mines near St. Louis are more distant, and situated in an unhealthy location, and the coal got at a greater expense than at Mount Carbon. The blacksmiths at St. Louis prefer giving 50 cents a bushel for the Pittsburg coal to buying that got within a few miles of them at 12½ cents, on account of the great quantity of slate and sulphur contained in it. It will be apparent from the above statements that no mines hitherto discovered can compete with Mount Carbon. The best situated to do so are the mines at Hawesville and Bon Harbour, about 120 miles below Louisville; but the quality of the coal is not good—giving out but little heat, and making much white ashes and slate.

Third. The present way of getting the Mount Carbon coal to market is by the Big Muddy river, in flat-boats. This river may be considered navigable from the mines four or five months in the year, for flat-boats containing 3,000 to 5,000 bushels; and part of the time a middling sized steamboat could come to the wharf. By making a railroad, for which the ground is very favorable, and which can be done for about $5,000 or $6,000, the time for shipping coals would be nearly doubled. There is a shoal about a mile below the mines over which boats cannot pass at low water, and the railroad proposed would extend to the deep water below the shoal. The Legislature of the State has made an appropriation of $20,000 to improve the navigation of this river, and it is expected that this sum will be sufficient for that purpose up to the mines; or a railroad could be made to the Mississippi river, not exceeding sixteen miles in length. The Central railroad, to be made by the State, and end at the city of Cairo, at the junction of the Ohio and Mississippi rivers, as at present located, comes within a few miles of the mines; and a resurvey is likely to be made, which, it is expected, will bring it close to the mines. This will be the most advantageous route for taking the coal to market, as by it access can be had to the river and New Orleans nearly every day in the year. It is expected that, at the next meeting of the Legislature, means will be found to carry on this railroad. The distance from the mines to Cairo will be about sixty miles, and a large part of the

grading on the first thirty is already done. At this point twenty steamboats a day frequently pass, and a large consumption of coal at that place is anticipated, by the foundries and factories there to be established. The steamboats are daily using more coal; and if they could get supplied at convenient places, there is hardly a limit to the quantity that would be sold to them. Some of the larger boats use 60 to 70 cords of wood a day, costing from $2 to $5 a cord, notwithstanding its greater weight and the larger quantity of space occupied by it. Now, one ton or thirty bushels of this coal is more than equal to three cords of such wood as the boats get on the Mississippi and Ohio rivers, and less than one third the weight: from this statement the advantages of using coal in steamboats must be apparent. I have observed, in my voyages on the river, when we had no coal to mix with the wood the speed of the boat lessened from one to two miles an hour. There are more than 400 boats on the Mississippi and Ohio rivers. The expense of delivering coal at the mouth of Muddy, and as far down the river as Cairo, by the mode at present used in flat-boats, including the digging of the coal, will not exceed from seven to nine cents a bushel. In this expense is included a loss on the boat of nearly one-half its cost, as they can rarely be brought back to the mines, and have to be sold for what they will bring; but when we have a small steamboat and suitable tow-boats, a considerable saving will be made on this expense as well as much time. For the expense of delivering coals at New Orleans, I refer you to the printed statement in your possession; and I have also to state that we have made one trial to New Orleans, at a most unfavorable period, with two boat loads of coal, and it proved that a profitable trade could be carried on to that place at all times we could get out of Muddy. You shall have the particulars of this voyage with the certificates from the steamboats. I have no doubt that, as soon as the steamboats are acquainted with this coal, all we can deliver will be readily sold to them; but they can hardly at present believe there is any good coal except from Pittsburg. We have now a boat load on sale at Cairo to steamboats, and I hope soon to send you an account of its

disposal. Wood costs, near New Orleans, $4 to $5 a cord; coal, at 25 cents a bushel, will save them about one-half, as well as much time lost in wooding. It may be stated that this coal can be used for any purpose to which bituminous coal can be applied, and for making iron I know none so suitable. I have no hesitation in saying that iron can be made in this nighborhood cheaper than at Pittsburg, on account of the greater facility of getting iron ore, and the absence of sulphur in the coal. This will be the subject of a future report, after the examination of the iron deposites I mentioned. It must be observed a large portion of the iron made at Pittsburg passes by the mouth of Muddy for sale at St. Louis, with a charge for freight on it of three-quarters of a cent a pound. This is a pretty good tariff in our favor.

Much more might be added to this report, but it is already sufficiently long. I shall be glad to elucidate any parts that may seem to require it, and to give any further information that may be useful. I will merely add that, from the state of preparation the concern is in, if a moderate capital is supplied, a dividend could be made by next June, or perhaps earlier. I have seen most of the coal concerns in the United States, and I know of none that can make so good or quick a return for the capital employed. We have the market of steamboats almost at our door, and, with a railroad to below the Fish-trap Shoals, even with the river Muddy in its present state, we can keep a constant supply of coal for steamboats at a station near the mouth of Muddy and at Cairo; but it will be at a greater expense than when the navigation of the river is improved, but will still give a greater return of profit than any business now carried on in the United States: and I will only add that the mines can supply coal as fast as any means can be found to take it away.

There is a tract of 80 acres of land, not shown on the map, situated on the river below Brownsville, on which a hole was bored for salt-water, and salt-works erected some years ago. The boring was not carried down deep enough to reach the main salt-spring, but some salt-water was obtained. There is a saline belonging to the State between this land and the coal

mines; and I have no doubt but the rock in the river at the coal mines and that in the river near the salt well are the same, and that salt-water may be procured at the coal bank, to any extent that may be wanted, by boring to a very moderate depth. There is a salt-lick, to which the deer and cattle resort, within a few hundred yards of the coal bank, and other indications on the rock near it. The steam-engine attached to the mines will afford facilities for boring the holes, which can be done at a small expense, and salt can be made, boiled with coal, for about 12½ cents a bushel. It may be mentioned that the salt region in Ohio is covered with the coal formation; and, as the coal formation either covers the salt-spring at Equality or comes very near it, there can be no doubt but the salt formation exists under the coal deposite here. The present selling price of salt is a dollar a bushel. The foreign salt cannot be brought here as cheap, and the salt made at the Brownsville salt-works has always maintained a high character for curing meat, and for that purpose there is a considerable demand. The erection of a salt-work would consume the small coal and that which is shovelled off the flow of the mine, and render the remainder in larger pieces, which is much liked at New Orleans, particularly for using in grates and parlor fires. The salt formation at Kenawha, in Virginia, is also covered with the coal formation, and coal is there used for boiling the salt. I shall be happy to furnish any elucidation to this report that may be wished, or any further information necessary.

I am, dear sir, yours, respectfully,

WILLIAM ASTON.

William A. Bradley, Esq.,

President of the Mount Carbon Coal Company.

CHARTER OF THE MOUNT CARBON COAL COMPANY.

An act to incorporate the Mount Carbon Coal Company.

Section. 1. *Be it enacted by the people of the State of Illinois, represented in the General Assembly,* That Hall Neilson and his associates, successors, and assigns, be, and they are hereby, constituted a body corporate and politic, by the name and style of the "Mount Carbon Coal Company," for the more convenient ownership and mining of coal and metals, and minerals contiguous thereto, in the county of Jackson, and the transaction of the usual business of companies engaged in the mining, transporting, and selling of coal, and the other products of coal mines; and the said corporation, by the said name, is declared and hereby made capable in law to sue and be sued, to plead and be impleaded, to have a common seal, and the same to alter and renew at pleasure, to make rules and by-laws for the regulation and management of said corporation, consistent with the laws of this State, and, generally, to do and execute whatever by law shall appertain to such bodies politic: *Provided,* That nothing herein contained shall be considered as conferring on the said corporation any banking privileges; but they shall be exclusively confined to the operations directly necessary for carrying on the mining, coaling, and transportation of coal, and the construction of the necessary buildings, wharves, and boats; and each and every stockholder shall be, in his individual capacity, liable for the debts and performance of all contracts entered into by said corporation, to the amount of the balance unpaid on the stock of such stockholders.

Sec. 2. The said corporation shall have the right to hold, possess, and enjoy, not exceeding two thousand acres of land; and the whole amount of the capital stock shall not exceed in value the sum of two hundred thousand dollars, and shall be divided into four thousand shares; which capital shall be employed in purchasing and holding the lands aforesaid, and in constructing and employing buildings, vessels, boats, arks, and such other improvements and machinery necessary or useful, for the mining, coaling, and transporting of coal. Every member of said company shall have a certificate, under the seal of the corporation, and made and attested in such manner and form as the by-laws shall direct, certifying his right in the share or shares owned by him; and the stock of said company shall, in the nature of personal property, be assignable and transferable, according to such rules as the board of directors shall establish; and no stockholder indebted to the company shall be permitted to make a transfer or receive a dividend until such debt is discharged, or security given for the same, to the satisfaction of the directors.

Sec. 3. For the managing of the affairs of the said corporation, there shall be chosen from the stockholders five directors, who shall hold their offices for one year, or until superseded by others. Thirty days' previous notice, by publication once a week for one month in the newspaper in or nearest to the town of Brownsville, shall be given of the first election of directors, and there shall be annually thereafter a like election at the town of Brownsville. In all such elections for directors, each proprietor of shares shall be entitled to one vote for every five shares held by him, which vote may be given by himself or proxy duly authorized under seal, and a majority of the shares shall be necessary to a choice of directors, or the

transaction of any business which may concern the company, and come before the stockholders.

Sec. 4. A majority of the directors shall form a quorum to transact business, and they shall meet within thirty days from the time they shall have been chosen at Brownsville, and choose by ballot one of their number for president, who shall serve for one year, or until superseded by a new election; and there shall be, annually, after the said election, a like election in Brownsville, by the directors for the time being, of a president for said corporation. The said directors shall also have power to choose and appoint such other officers and agents, to conduct and prosecute the business of the said corporation, as they shall deem necessary and proper; and they shall also have the power, for good cause, to be spread at large, together with the proof in support thereof, upon their minutes, to remove the president of said company from office. The said directors shall cause to be kept, duly recorded in books to be provided and kept for the purpose, minutes of all their proceedings, and regular accounts of their transactions, as also minutes of the proceedings of the stockholders at each of their meetings; which books may at any time be inspected by any of the stockholders. The said directors shall have power to supply any vacancy which may occur in the office of president, or in their own body, and the president or directors thus appointed shall hold his office until the next succeeding annual election for such officers.

Sec. 5. The directors may, from time to time, at any meeting, assess and require payment of such sum of money, not exceeding twenty per cent. upon each share of stock, as shall be judged necessary for the purposes of the corporation, to be paid at Brownsville, to such person as the said directors may designate and authorize to receive the same; and if, after publication of notice, once a week for two months, in the newspaper at or nearest to Brownsville, of the time of payment, and of the person appointed to receive the same, of any proportion or instalment of said capital stock, any stockholder shall fail to pay his instalment at the time specified in said notice, the amount paid by such delinquent stockholder previously shall be forfeited to the company, and his stock may be sold to any person, for such price as may be agreed upon between the said company and the purchaser.

Sec. 6. Dividends of the nett profits of the said company shall be made at such times as shall be determined by the stockholders in general meeting, which dividends shall be paid to the persons entitled to the same, on demand made ten days after making and declaring the said dividends, and their amount shall be published for three successive weeks, in the same manner as other notices are hereinbefore directed to be published. Whenever said dividends shall exceed twelve and a half per cent. per annum, the said company shall pay a tax in the county treasury of Jackson county, to be assessed by the county commissioners' court of that county.

Sec. 7. The stock of said company shall be deemed personal estate, and pass as such to the representatives of each stockholder: *Provided*, That the real estate which may be held by said corporation shall be sold and conveyed, whenever they may deem proper so to dispose of it, according to the forms and in the manner prescribed by law, the president of said company making the acknowledgment required by law, for and on behalf of the company.

Sec. 8. Service of process on the president of said company shall be deemed and taken as sufficient service on the corporation, in any suit which may be instituted against it; and for any violation of the provisions of this act, the said corporation shall be held to answer by *scire facias* in the Jackson county circuit court; and if, upon the trial thereof, it shall appear that such violations have been committed, and it shall be so found, the said court may and shall give judgment revoking this charter. Any such proceedings by *scire facias*, for such violations, shall be instituted and prosecuted, in the name of the people of the State of Illinois, against the said corporation.

Sec. 9. This act to take effect from its passage, and to continue in force thirty years thereafter: *Provided*, The said Hall Neilson and Thomas Neilson, their assigns, successors, and associates, under "An act to incorporate the Illinois Manufacturing, Mining, and Exporting Company," approved January 28, 1833, file in the office of the Secretary of State a written relinquishment, under seal, of their privileges granted by said act, a certificate whereof shall be issued by said Secretary to the corporation hereby created, without which this act shall not take effect. The said relinquishment shall be so filed on or before the first day of August next.

JAMES SEMPLE,
Speaker of the House of Representatives.

A. M. JENKINS,
Speaker of the Senate.

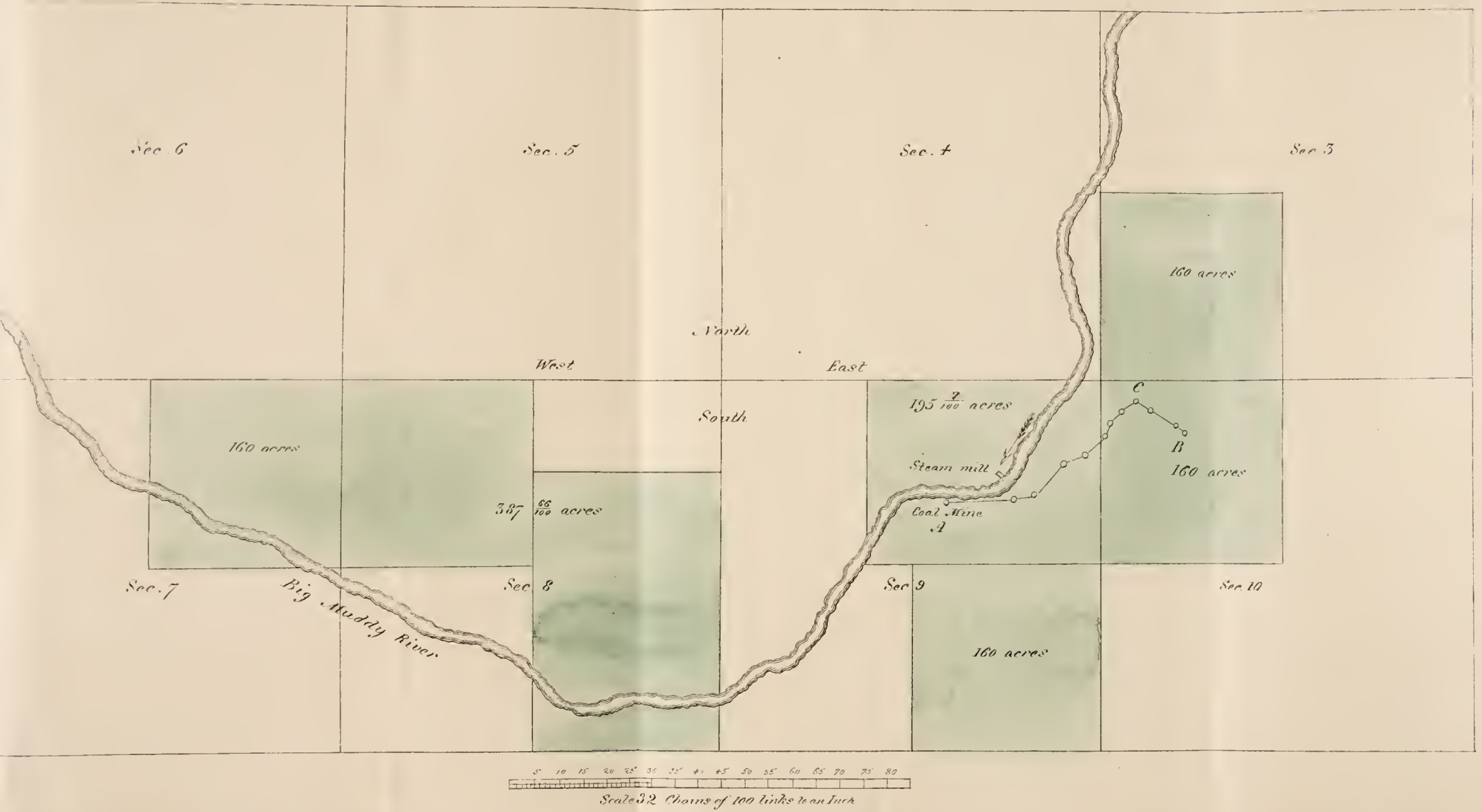
Approved, January 24, 1835.

JOSEPH DUNCAN.

Map of a part of Jackson County, State of Illinois

Note the Lands marked green are owned by the Mount Carbon Coal Company.

Plat of Lands owned by the Mount Carbon Coal Company situated in Township No 9 Range 2 west of the 3rd Principal Meredian, Jackson County, Illinois —



Note/ at A is the mouth of the Coal Mine now worked. the Line from A to C is the base of the rising grounds in which the Coal deposit exists. From C on the line to B is a Ravine; and at B the Coal exhibits itself on the face of the declivity The same rising ground continues to Eastern and Southern boundaries —